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ABSTRACT OF THE DISCLOSURE

The present invention reveals methods for cloning hybrid restriction endonucleases and for enzymatically inactivating a target DNA. The method for cloning hybrid restriction endonucleases involves co-expression of a ligase. A first plasmid contains a gene encoding a DNA ligase. A second plasmid contains a gene encoding a hybrid restriction endonuclease and is compatible with the first plasmid. The method involves transfecting host cells with the first plasmid, so that DNA ligase is produced, followed by transfecting the cells with the second plasmid. The method for enzymatically inactivating a target DNA involves preparing a plasmid, phage, virus or any other delivery vehicle such as a liposome containing a gene encoding a nuclease, delivering the gene into cells, inducing the cells to produce the nuclease and enzymatically inactivating the target DNA.